## CLAIMS

- A flexible unbonded pipe (1) for producing a dynamic pressurized fluid-transfer hose, in particular 5 a mud hose (110), for rotary oil drilling or turbodrilling, of the type that comprises, from the inside to the outside, an inner polymer sheath (2), at least two crossed armor plies (4, 6), consisting of wire (4-2, 6-2) wound helically at opposing lay angles 10 A and B close to the 55° equilibrium angle, having a mean centered on a value close to said equilibrium angle value, and an outer polymer sheath (8), characterized in that it includes an anticreep layer, arranged around the inner sheath, produced by at least one winding (9) with contiguous edges of a strip with 15 high mechanical properties, and in that the lay angles A and B of the crossed armor plies (4, 6) are not equal.
- 20 2. The pipe as claimed in claim 1, characterized in that the difference in the angles A and B is between  $4^{\circ}$  and  $10^{\circ}$ , preferably between  $6^{\circ}$  and  $8^{\circ}$ .
- 3. The pipe as claimed in either claim 1 or claim 2, characterized by at least one flexible adjacent layer (4-1, 6-1) into which at least one wound reinforcing wire (4-2, 6-2) is able to penetrate at least partially.
- 30 4. The pipe as claimed in claim 3, characterized in that the flexible layer (4-1, 6-1) is made from a natural or synthetic elastomer material.
- 5. The pipe as claimed in either claim 3 or claim 4, characterized in that the wound reinforcing wire (4-2, 6-2) that is able to penetrate at least partially into the flexible layer (4-1, 6-1) consists of a round wire

or a strand.

15

35

- 6. The pipe as claimed in any one of claims 3 to 5, characterized in that the flexible layer of the inner ply (4-1) is placed under the wire winding that is able to penetrate (4-2), and the flexible layer of the outer ply (6-1) is placed over the wire winding that is able to penetrate (6-2).
- 7. The pipe as claimed in any one of claims 1 to 6, characterized in that the anticreep layer (9) is produced by one or more windings (9) of an elongate element with high mechanical properties, at a short pitch and an angle of at approximately 70°.
  - 8. The pipe as claimed in claim 7, characterized in that this or these windings (9) are provided under the armor ply.
- 9. The pipe as claimed in either claim 7 or claim 8, characterized in that the winding or windings (9) are made from aramid fiber of Kevlar® type.
- 10. The pipe as claimed in any one of claims 1 to 9, characterized in that it includes only two crossed armor plies (4, 6).
- 11. The pipe as claimed in claim 10, characterized in that the lay angle A of the lower ply (4) is greater 30 than the angle B of the upper ply (6).
  - 12. The pipe as claimed in any one of claims 1 to 10, characterized in that it includes a first pair (4, 6) of armor plies of lay angle A and B, and at least one other ply or another pair (4', 6') of alternate or imbricated crossed armor plies.
    - 13. The pipe as claimed in claim 12, characterized in (00732961.1)

that the lay angle of the other ply or the lay angles of the other pair (4', 6') are chosen substantially equal to the lay angles A and B of the first pair (4, 6) of armor plies.

5

14. A mud hose (110) for rotary drilling, characterized in that it consists of a pipe (1) as claimed in any one of claims 1 to 13.